Water Quality Team Meeting

September 13, 2005

1. Greetings and Introductions.

Mark Schneider welcomed everyone to today's meeting, which was facilitated by Robin Harkless. The following is a summary (not a verbatim transcript) of the topics discussed and decisions made at today's meeting. Anyone with questions or comments about these notes should contact Kathy Ceballos at 503/230-5420.

2. Briefing on Lower Columbia TDG Subcommittee Status.

As you will recall, said Schneider, this was a group that started off to address some topics that came out of the discussions of the Camas/Washougal monitoring station, which raised some questions about the potential effects of TDG in the Lower Columbia below Bonneville. We formed this subcommittee to try to work through the technical issues that arose from those concerns; where we are right now is that the Corps is going to pursue a contract to look at two of the technical topics. The first is, what do we know about the effects of dissolved gas on salmonids and non-salmonids? Also, there was a fair amount of data collected during the mid-'90s with regard to the questions we're asking about the effects of spill at Bonneville farther downstream; we need a better understanding of what data is available. In short, there is a biological question, and a database question, Schneider said.

We have been trying to figure out how to get this done, said Rudd Turner. We need to find out more about the effects of TDG below Bonneville in the shallow-water habitat. River mile 46 to 146 is probably as good a description as we have of the footprint of concern. The district has been working to find the right people to do the literature review. Some of these folks are at the AFS meeting in Alaska, but it now looks as though we can add a task to Battelle's 2006 contract. We're calling it the synopsis of biological information, and have been talking to Batelle about the timeline, Turner said. They said they should be able to complete the data review by late October, but that doesn't appear likely at this point – it will most likely be later this fall. We're going to discuss scope with them – cost and time estimates – and I should know more by later this week. Dave Geist and Earl Dawley will likely be involved.

We should have a preliminary draft proposal by the end of this week, and should have something pretty well fleshed out by the end of next week, Turner said. There is a

desire to use FY'05 funds for this work, if possible. Much of the literature search will focus on Snake River fall chinook use of the area between RM 46 and RM 146. In response to a question, Turner said the scope of work will be completed soon; it certainly has to be done before the end of this month. In response to another question, Turner said this will be a Corps contract, not a BPA contract.

How soon will we know the schedule? Gary Fredricks asked. We're working on this both this week and next week, Turner replied; by the end of next week, we should have a pretty good idea of what we're going to do. It's not a big piece of work, but without seeing a scope of work, I'm a little reluctant to move ahead.

In response to another question, Schneider said the subcommittee has held off meeting until the scope of work and contractual situation are resolved. Schneider, Fredricks, Margaret Filardo, John Picininni and Agnes Lut expressed interest in participating in the scope of work review.

Part of the reason for haste is that, if there was to be a change in the monitoring deployment for next season, one station that could be affected is Camas/Washougal, Schneider said. There will be a need to involve the ODEQ commission if that change is made; their meeting schedule is fairly rigid. I have volunteered to work with Agnes and the State of Oregon to facilitate when we get this synopsis done, and to get any necessary information before the Commission, said Schneider. Lut said any materials will need to be submitted to her no later than the second week of October if they are to be presented at the December Commission meeting. Turner said it is unlikely that the Batelle review can be completed within that time-frame. Lut noted that the next ODEQ Commission meeting will be held in March. Schneider suggested that it may be possible to provide at least some information in advance of the Commission's December meeting. I'll look into the possibility of a phased submission, Turner said.

The other task we've discussed is an add-on to Batelle's chum monitoring contract, said Turner. One thing it sounds like Batelle will be doing is building in some monitoring on the Oregon side, in the Multnomah Creek area. They will be evaluating TDG in the redds, and investigating any biological issues associated with TDG from Bonneville. Batelle will be submitting a proposal to the AFEP and SRWG processes. Funding discussions are ongoing between the Corps and BPA; we would like to get that work underway in FY'06, so it's a very short timeline, Turner said.

Is there anyone else in the WQT with knowledge of more recent literature, beyond the 2003 work on the Clark Fork? Schneider asked. If so, they should send that information to me and to Mike Langeslay at Portland District.

I wonder if, once the Corps has had a chance to scope this task, the subcommittee should reconvene next week, said Fredricks. I would be willing to be the focal point for any information that needs to be reviewed by the subcommittee, in the interest of moving the process forward quickly, said Schneider.

It sounds, then, as though Rudd will forward the scope of work to Mark Schneider as soon as it is available, and Mark will the convene a subcommittee meeting to review it, said Harkless. We'll get a further update on this topic at the October WQT meeting, she added.

3. Winter TDG Monitoring.

At the last WQT meeting, the Corps raised some questions on this topic, and the group posed a few questions for the Corps, said Harkless. As you will recall, said Jim Adams, we provided a summary of TDG data from September 1-March 31 for the years 2001-2005 -- basic information on TDG levels at each of the fixed monitoring stations on the Snake and Columbia Rivers. What I asked at the time was for everyone to review this data, and to come to today's meeting prepared for a discussion on the merits and issues associated with wintertime monitoring. My hope was that we could discuss that at today's meeting, said Adams; however, my intention was not to ask the WQT to develop a consensus recommendation on how wintertime monitoring should be conducted in the future. I would like to discuss any issues you see, and the Corps will then negotiate any changes to the winter monitoring regime directly with the state water quality monitoring agencies, he said.

We have a TDG plan in place covering the March 1-February 28 period, said Adams; until we negotiate something different with the state water quality agencies, we will operate according to that plan.

Have the other WQT participants had a chance to review the Corps' information, and are they ready for this discussion? Harkless asked. First, what Jim has just described is a little different from what he originally asked us to do, said Schneider – my original impression was that the Corps was requesting a WQT team response to the winter monitoring question. It was my intent to enter into these discussions and ask members of the WQT to describe issues they may have with the current wintertime monitoring program, Adams replied – are there biological reasons, for example, that NMFS and the Fish and Wildlife Service would like wintertime monitoring to continue? Most of the emphasis in the BiOp is on the spill season and in-season management period – I don't think it directly addresses wintertime monitoring at all. If there are reasons why wintertime monitoring should continue, he said, I would like to hear them.

I have two issues, said John Picininni – if we're thinking of changes to the monitoring schedule, will that save BPA any money? The current annual cost of FCRPS TDG monitoring is pushing $1 million, Adams replied. I can't tell you what percentage of that total is BPA funds, but cutting back on wintertime monitoring would definitely save the districts money. Part of the decision will be an evaluation of the cost of collecting the wintertime data vs. the value of the information collected, said Adams.

Wintertime monitoring was put into place in the ‘90s because we had no idea what levels of TDG the system was producing during the winter due to unplanned spill events, said Margaret Filardo. The idea, at that time, was to monitor somewhere in the Snake, at the confluence of the Snake and Columbia Rivers, and somewhere lower down in the Columbia. That data can be pretty unexciting during most years, and then quite exciting the next, she said – it can help explain what we’re seeing in terms of abundance and survival to adulthood. We need to talk in more detail about the objectives of wintertime monitoring, she said – is the current program still serving our needs? If you can agree upon the objectives, you can make an informed decision about which parts of the program could potentially be reconsidered, Filardo said.

Adams said the data fall into two distinct eras – 1995-2000 and 2001-2005. Flows tended to be much higher in the first era, he said. The second difference between the two eras is the structural modifications to the projects, many of which were put in place after 2000. Spill is obviously the major source of wintertime gas; the characteristics of TDG generation for a given volume of spill are different now than they were in the mid-‘90s.

One of the Corps’ concerns is that we have a TMDL that covers gas year-‘round, said Adams. One of the questions we have is, is part of the desire to continue wintertime monitoring the fact that TDG is listed on the 303(d) list year-‘round? Adams asked. If you take the wintertime as a whole, the 10% exceedence of the criteria has never been met since 1995. If you look at it in a monthly time-frame, there have been two exceedences of the 10% criteria. Both the States of Oregon and Washington require that if more than 10% of the readings exceed the standard, it should be listed on the 303(d) list. However, because of modifications to the project, during the winter months, we are no longer exceeding the 10% standard during the winter. That being the case, should the TMDL be modified?

It doesn’t need to be modified, Lut replied – you’re a management agency. There is already a TDG TMDL for the Columbia River – you’re no longer on the 303(d) list, you’re in the implementation phase. But does TDG belong on the TMDL list for the winter months? Adams asked. Again, you already have a TMDL – a year-‘round listing for TDG in the Columbia River, said Lut – this TMDL will be revisited within 5 years to determine how the implementation phase is going. And the long-term strategy needs to be implemented by 2011? Adams asked. Correct, Lut replied.

What are the performance standards that define success under the TMDL? Adams asked. There are specific performance measures included in the standard, Lut replied. However, we pretty much know that we’re not going to be able to meet those performance measures during the fish passage season, no matter what we do to the dams, Adams observed. I think it’s fair to say that most of the physical modifications that can be made to alleviate gas at the FCRPS projects have already been done, said Schneider. I would add that, in general, what drives TDG levels is the TDG caps, because during the fish passage season, the instruction is generally to spill up to the

cap, said Adams. In other words, during the voluntary spill season, we will never be able to meet the 110% standard, Jim Irish observed.

It sounds as though the Corps is interested in fine-tuning the winter monitoring program in order to save some money, said Harkless – to me, it makes sense to explore Margaret's suggestion, and discuss the objectives of the winter monitoring program. It seems to me, what you really need to know is what TDG concentrations are year-'round, said Stu McKenzie. Jim's point is a good one – significant structural modifications have been put in place during the past few years. The question is, do we now have enough information to predict what TDG levels will be, given this modified system, accurately, under a variety of operations? Would a model-based winter monitoring program be sufficient for the states?

There is a statement in the BiOp that statistical analysis and modeling could be an acceptable surrogate for physical monitoring during the winter, Adams observed. We have collected a significant amount of data in recent years, and we believe it may be possible to predict what TDG levels will be under various operations. If we see an extended period of high TDG levels coming up, then we could deploy a physical monitor to validate our modeling, he said; if there isn't a real use or benefit to collecting wintertime monitoring data, from a biological perspective, perhaps we can dispense with physical monitoring during the winter. In response to a comment from McKenzie, Adams said the Corps believes it already has the necessary modeling tool to provide this information: SYSTDG.

Mike Schneider noted that the wintertime data is not being used by the Corps to manage spill. The question then becomes, are there people out there using this data, and for what purpose? The next question is, can the winter monitoring system be modified to still meet those needs, while being more efficient? Our current predictive capability appears to be very reliable, in terms of predicting the water quality consequences of operations at various projects, he said; we could probably place sound bounds of predictive error around those estimates. To me, it does appear that physical sampling during that time period could be made more efficient, Mike Schneider said. He added that it is not accurate to say that there is no physical way to keep gas within the 110% standard year-'round; according to the DGAS study, it would be possible, but very expensive and restrictive, operationally.

Schneider agreed with Filardo that a more detailed discussion of the purpose of wintertime monitoring is needed; one of the key questions is what the states need. If the state doesn't have such a need, then we have to look at the needs of NMFS and the other salmon managers. The next question is, in order to meet those needs in a cost-effective manner, what kind of a monitoring program is needed?

My suggestion would be for you to start with the SYSTDG model, and see what it predicts during the winter – see what your error bounds are, and your overall accuracy is, said McKenzie. You could then take those results to the states and ask them, is this

adequate? My only caveat would be that you carefully distinguish between conditions in the two eras you described earlier, said Joe Rinella.

From a fisheries perspective, the years of most value to us, in terms of knowing what the TDG levels are during winter months, are the extreme high-flow years, said Filardo. That's information we have used in the past to explain why, for example, adult returns and juvenile survival were not as high as we might have expected them to be, she said. It sounds as though the model could be used if you had enough years to validate the model over those extremes. To me, she said, until we have a few more high-flow years, it probably makes sense to combine SYSTDG with at least some physical monitoring. Would you necessarily need to have a winter tailwater monitor at every project? Adams asked. No, Filardo replied – you could just monitor the tailraces of the projects that generate the most gas in each reach, for example. Again, in the future, we might be able to go to a model-based system, once we have a little more information, she said. Filardo added that winter water temperature information is also very helpful, from a biological perspective.

It was further suggested that, at least during the winter months, the Corps could, like Chelan PUD, go to a monthly calibration schedule, rather than its current two-week calibration schedule. That would be another means of reducing the Corps' costs, Schneider said. After a few minutes of discussion, Adams said the Corps will evaluate the possibility of less-frequent instrument calibration as a cost-savings vehicle.

The discussion continued in this vein for some minutes. Ultimately, Harkless noted that a variety of positive suggestions have been provided to the Corps at today's meeting, and suggested that Adams take them back to his agency for further discussion and evaluation. In response to a question, Dave Wills said he agrees with much of what he has heard today; in particular, he said, it is important to know what's happening in the river, water quality-wise, during high-flow years. Lower water years have no significant biological impact, he said, so physical monitoring is less-critical during those years. The Fish and Wildlife Service is willing to consider anything the action agencies want to propose, Wills said.

The discussion returned to the biological objectives of the wintertime monitoring; Schneider observed that he has not heard many details about the biological needs the monitoring program is intended to satisfy. Harkless suggested that it may make sense for the Corps to propose an alternative monitoring program to the WQT and the salmon managers; they can then discuss that program and communicate any concerns they may have. It would be helpful to know not only what you're thinking, but why, said Lut. I can put together a 1-2 page synopsis, said Adams. A WDOE representative suggested that, in this synopsis, the Corps steer clear of any reference to the 10% rule, because that applies only to the 303(d) list. In response to a question from Harkless, Adams said his intent is to tie the reconsideration of the winter monitoring program to the development of the 2006 Water Management Plan.

4. Water Quality Team Representatives – NMFS Letter Response.

Schneider distributed an updated table representing the formal response to the NMFS letter asking each of the receiving entities to designate an official representative and alternate for the Water Quality Team. These are the people Agnes and I will look to if a discussion occurs in which formal participation is necessary, said Schneider.

At a previous meeting, you said the NMFS website was being upgraded, said Wills – I would encourage you to upload this membership information to the WQT page as soon as possible. Schneider agreed to do so.

5. WQT Guidelines.

Harkless said she had updated the WQT guidelines to reflect recent discussions. One issue was the mention of the Columbia Basin Forum, which is no longer in existence; I took out any references to that group, she said. I also deleted references to the emergency list, because no emergencies have occurred in the last five years that required WQT input. I also added a reference to the NMFS website, replacing the reference to the Corps website, she said. Finally, said Harkless, I would suggest that we add the membership list as an appendix to the guidelines, to be updated as needed. I also added the phrase “Also see the IT guidelines” in the section that discusses dispute resolution, she said. Wills suggested that Harkless simply excerpt the IT guidelines dispute resolution language and include it in the WQT guidelines; it was agreed that this would be helpful.

In response to a previous action item, Picininni said he had checked, and there was no duplication of the QA/QC effort referenced in the monitoring plan section of the guidelines. We’ll leave the language as written, said Harkless.

6. Next WQT Meeting Date.

The next meeting of the Water Quality Team was set for Tuesday, October 11. Meeting summary prepared by Jeff Kuechle, BPA contractor.